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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/788,646	Applicant(s) LOWNSBROUGH ET AL.	
	Examiner BACKHEAN TIV	Art Unit 2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6, 8-25 and 31-37 is/are pending in the application.
- 4a) Of the above claim(s) 1, 7, 26-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6, 8-25 and 31-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims 2-6, 8-25,31-37 are pending in this application. This is a response to the Remarks filed on 6/19/08. This action is made **FINAL**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 8-25, 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication 2005/0154785 issued to Reed et al(Reed) in view of US Publication 2003/0220925 issued to Lior in further view of US Publication 2005/0080661 issued to Casati et al.(Casati) in further view of US Publication 2004/0111504 issued to Halim et al.(Halim) in further view of US Publication 2007/0150546 issued to Karakashian et al.(Karakashian).

As per claim 6, Reed teaches a method facilitating the classification of web services network(Abstract), comprising: maintaining a data structure comprising, for each discovered web service, a web service identifier corresponding to the web service(Fig.3B, para.0083).

Reed however does not explicitly teach network traffic classification and discovering, at a network device, one or more web services based on web service

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invocation messages received at the network device; transaction corresponding to one or more web services; transaction count associated with the web service; incrementing, responsive to a message indicating a new web services network transaction, a transaction count associated with the web service identifiers and presenting, in a user interface, one or more of the web service identifiers and corresponding transaction counts, wherein the user interface allows for selection of one or more web service identifiers; and configuring, responsive to selection of a web service identifier, a network traffic classification mechanism to identify the web service corresponding to the web service identifier by creating a traffic class identifier corresponding to the web service; creating a traffic class identifier corresponding to the web service; creating at least one matching rule defining an attribute of the web service; associating the at least one matching rule to the traffic class identifier in the traffic classification mechanism.

Lior teaches network traffic classification(para.0059) .

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed to classify network traffic as taught by Lior in order to specify the protocol and data format for a port type.

One ordinary skill in the art would have been motivated to combine the teachings of Reed and Lior in order to specify the protocol and data format for a port type.

Casti teaches transaction corresponding to one or more web services; transaction count associated with the web service(Abstract).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed in view of Lior to include monitoring

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transactions for web services as taught by Casti in order to manage the performance of business services to make it more efficient(Casti, para.0001).

One ordinary skill in the art would have been motivated to combine the teachings of Reed, Lior, and Casti in order to manage the performance of business services to make it more efficient(Casti, para.0001).

Reed in view of Lior in further view of Casti does not explicitly teach incrementing, responsive to a message indicating a new web services network transaction, a transaction count associated with the web service identifiers in a user interface, corresponding transaction counts.

However, Casti does teach writing functions to access logs and compute metric values. The service execution logs stores performance data, such as service availability, maintenance costs, and time to complete a transaction. The functions can be used for a variety of metrics, in which a user can customize custom metrics(para.0024). Casti further teaches displaying reports of monitored and measured of web services(para.0026).

One ordinary skill in the art at the time of invention would be able to use the process of customizing custom metrics can be applied it incrementing a transaction count since counters are well known in the art used to store the number of times a particular event or process has occurred.

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed in view of Lior in further view of Casti to

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include incrementing a transaction count and displaying result in order to monitor performance of web services.

One ordinary skill in the art would have been motivated to combine the teachings of Reed, Lior, Casti, and a counter used for tracking transactions in order to monitor performance of web services.

Halim teaches configuring, responsive to selection of a web service identifier, a network traffic classification mechanism to identify the web service corresponding to the web service identifier by creating a traffic class identifier corresponding to the web service; creating a traffic class identifier corresponding to the web service; creating at least one matching rule defining an attribute of the web service; associating the at least one matching rule to the traffic class identifier in the traffic classification mechanism(Abstract, para.0079-0081).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed in view of Lior in view of Casti to include creating a traffic class based on a web service identifier as taught by Halim in order to track traffic for a web service.

One ordinary skill in the art would have been motivated to combine the teachings of Reed, Lior, Casti, and Halim in order to track traffic for a web service.

Karakashian teaches discovering, at a network device, one or more web services based on web service invocation messages received at the network device(fig.4).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed in view of Lior in view of Casti in view of

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Halim to include discovering, at a network device, one or more web services based on web service invocation messages received at the network device as taught by Karakashian in order to implement web services(Karakashian, para.0003)

One ordinary skill in the art would have been motivated to combine the teachings of Reed, Lior, Casti, Halim, and Karakashian in order to implement web services(Karakashian, para.0003)

As per claim 2, the method of claim 20 wherein the defining step comprises defining a first traffic class corresponding to the web service(Reed, para.0036; WSDL is first class); defining at least a second traffic class corresponding to an attribute of the web service(Reed, para.0083); and associating the at least a second traffic class as a child traffic class of the first traffic class in a hierarchical traffic classification scheme(Reed, para.0083; generating class file from the WSDL).

As per claim 3, the method of claim 2 wherein the attribute in the second defining step is an operation of the web service(Reed, Fig.4).

As per claim 4, the method of claim 2 wherein the attribute in the second defining step is a binding supported by the web service(Lori, para.0059). Motivation to combine set forth in claim 6.

As per claim 5, the method of claim 20 wherein the web services interface definition document is a WSDL document(Reed, Fig.3B).

As per claim 8, the method of claim 7 wherein the attribute in the second creating step is the web service identifier corresponding to the web service(Lori, para.0040,0053). Motivation to combine set forth in claim 6.

As per claim 9, the method of claim 8 further comprising creating at least one additional matching rule defining an attribute of the web service(Lori, para.0040,0053). Motivation to combine set forth in claim 6.

As per claim 10, the method of claim 9 wherein the attribute in the third creating step is a protocol associated with the web service(Lori, para.0059). Motivation to combine set forth in claim 6.

As per claim 11, the method of claim 10 wherein the protocol is a web services protocol(Lori, para.0059). Motivation to combine set forth in claim 6.

As per claim 12, the method of claim 10 wherein the protocol is the SOAP protocol(Lori, para.0002). Motivation to combine set forth in claim 6.

As per claim 13, the method of claim 10 wherein the protocol is the HTTP protocol(Lori, para.0059). Motivation to combine set forth in claim 6.

As per claim 14, the method of claim 6 further comprising maintaining a count of the number of data flows corresponding to each web service traversing the communications path(Casti, para.0024). Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed in view of Lori in further view of Casti in further view of Halim, in further view of Karakashian of monitoring the traffic between client and server to include counting a number of requests in order track how many request are being made to the server.

As per claim 15, the method of claim 6 wherein the web service identifier comprises a host name(Lori, para.0039-0049). Motivation to combine set forth in claim 6.

As per claim 16, the method of claim 6 wherein the web service identifier comprises a host name and a uniform resource indicator(Lori, para.0039-0049). Motivation to combine set forth in claim 6.

As per claim 17, the method of claim 6 wherein the configuring step is performed in response to a command from an end user(Lori, para.0039-0049). Motivation to combine set forth in claim 6.

As per claim 18, the method of claim 6 wherein the monitoring step comprises upon detection of a new data flow, parsing at least one packet in the data flow to identify the protocol attributes corresponding to the data flow; matching the identified protocol attributes to a predetermined set of web services protocol attributes to determine whether the data flow is web services web services data flow(Reed, Fig.3B, Lori, para.0059, Casti, para.0024). Motivation to combine set forth in claim 6.

As per claim 19, the method of claim 18 wherein the parsing step comprises parsing the at least one packet in the data flow into a flow specification, wherein the flow specification contains at least one instance of any one of the following: a protocol family designation, a direction of packet flow designation, a protocol type designation, a binding type, a pair of hosts, a pair of ports, a pointer to a MIME type, a pointer to an application-specific attribute(Reed, para.0082-0083, Lori, para.0059).Motivation to combine set forth in claim 6.

As per claim 20, Reed teaches a method facilitating the classification of web services network(Abstract), comprising the method of claim 6 wherein the configuring the network traffic classification mechanism further comprises receiving an interface definition document defining the attributes of a web service (Fig.3B); processing the interface definition document to identify at least one class corresponding to the web service(Fig.3B, para.0083); and configuring a mechanism to identify the at least one class based on at least one attribute obtained from the web services definition document(Fig.3B, para.0096).

As per claim 21, the method of claim 20 further comprising subsequent to the configuring step, processing the latest interface definition document corresponding to the web service to determine whether changes to the configuration of the network traffic classification mechanism are required(Reed, para.0082-0083, Lori, para.058-0061). Motivation to combine set forth in claim 20.

As per claim 22, do not teach or further define over the limitations in claim 6 . Therefore claim 22 is rejected for the same reasons set forth above.

As per claim 23, the apparatus of claim 22 wherein the web services classification module is further operative to receive an interface definition document defining the attributes of the selected web service(Reed, para.0048,0082-0083); process the interface definition document to identify at least one traffic class corresponding to the selected web service(Reed, para.0048,0082-0083, Lori, para.0059); and create the at least one traffic class in the traffic classification database, wherein at least one matching rule associated with the corresponding traffic class is

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based on one or more attributes in the interface definition document(Lior, para.0059).

Motivation to combine set forth in claim 22.

As per claim 24, the apparatus of claim 23 wherein the at least one traffic class is identified relative to the operations identified in the interface definition document(Reed, para.0048). Motivation to combine set forth in claim 22.

As per claim 25, the apparatus of claim 23 wherein the at least one traffic class is identified relative to the bindings identified in the interface definition document(Lori, 0059). Motivation to combine set forth in claim 22.

As per claim 31, the apparatus of claim 23 wherein, to process the interface definition document, the web services classification module is further operative to define a first traffic class corresponding to the web service; define at least a second traffic class corresponding to an attribute of the web service; and associate the at least a second traffic class as a child traffic class of the first traffic class in a hierarchical traffic classification scheme(Reed, para.0083,0096, Halim, para.0079-0081). Motivation to combine set forth in claim 6.

As per claim 32, the apparatus of claim 31 wherein the attribute in the second defining step is an operation of the web service(Lori, para.0059). Motivation to combine set forth in claim 6.

As per claim 33, the apparatus of claim aim 31 wherein the attribute in the second defining step is a binding supported by the web service(Lori, para.0059). Motivation to combine set forth in claim 6.

As per claim 34, the method of claim 6 wherein the tracking list data structure comprises a hash table including one or more entries, wherein each entry comprises a key value and a transaction count, wherein the key value is generated by applying a hashing function to a host name and URI pair identified in messages initiating web services network transactions(Casti, para.0006, 0021-0023, Lior, para.0040-0054). Motivation to combine set forth in claim 6.

As per claim 35, the method of claim 6 further comprising applying one or more bandwidth utilization controls to data flows based on the web services traffic classes associated with the data flows by the traffic classification mechanism(Casati, Abstract, Lior, para.0059). Motivation to combine set forth in claim 6.

As per claim 36, the apparatus of claim 22 wherein the tracking data structure comprises a hash table including one or more entries, wherein each entry comprises a key value and a transaction count, wherein the key value is generated by applying a hashing function to a host name and URI pair identified in messages initiating web services network transactions(Casti, para.0006, 0021-0023, Lior, para.0040-0054). Motivation to combine set forth in claim 6.

As per claim 37, do not teach or further define over the limitations in claims 2-6, 8-25, 31-36. Therefore claim 37 is rejected for the same reasons set forth above.

Response to Arguments

Applicant's arguments filed 6/19/09 have been fully considered but they are not persuasive.

The applicant argues in substance,

a) Reed in view of Lior in view of Casati in view of Halim in view of Karakashian does not teach, “presenting, in a user interface, one or more of the web service identifiers and corresponding transaction counts, wherein the user interface allows for selection of one or more web service identifiers”,

b) Reed in view of Lior in view of Casati in view of Halim in view of Karakashian does not teach, “discovering one or more web service based on web service invocation messages”,

In reply to a); Casti does teach writing functions to access logs and compute metric values. The service execution logs stores performance data, such as service availability, maintenance costs, and time to complete a transaction. The functions can be used for a variety of metrics, in which a user can customize custom metrics(para.0024). Casti further teaches displaying reports of monitored and measured of web services(para.0026).

One ordinary skill in the art at the time of invention would be able to use the process of customizing custom metrics can be applied it incrementing a transaction count since counters are well known in the art used to store the number of times a particular event or process has occurred.

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Reed in view of Lior in further view of Casti to include incrementing a transaction count and displaying result in order to monitor performance of web services.

The applicant further argues that Reed in view of Lior in view of Casati in view of Halim in view of Karakashian does not teach, web services. Reed, para.0036, Lior, para.0004,0008,0040-0049 , clearly teaches web services. The applicant points out that websites are not relevant to web service, however, this is deemed as a contradiction to some of the claims, e.g. claim 15,16, receives web service identifier comprises a host name and a uniform resource indicator (URI). Host name and URI is well known in the art for use in website. One ordinary skill in the art of compute science, may classify a URI as a locator (URL), or a name (URN), or both.

Halim, Fig.1, Fig.3, para.0087, teaches the uses of input/output interface, and client/server computers with monitors, and keyboard and mouse adaptor for use in selection of data/information. Halim, para.0052, teaches the selection of a particular measure for performing the clustering/classification of websites. Web sites can be clustered according to the load/request patterns, user navigation patterns, **site hypertext structures**, etc.

In reply to b); Karakashian, Fig.2,4, para.0032, 0041-0048 teaches an invocation handler for the processing of web service request according to EJB instance, JMS destination, or HTTP-based web services.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are

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applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Backhean Tiv whose telephone number is (571) 272-5654. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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